

BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554

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FEDERAL COMMUNICATIONS COMMISSION
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In the Matter of)
)
Inquiry Concerning the Deployment of)
Advanced Telecommunications Capability)
to All Americans in a Reasonable and)
Timely Fashion, and Possible Steps to)
Accelerate Such Deployment Pursuant)
to Section 706 of the Telecommunications)
Act of 1996)

CC Docket 98-146

COMMENTS OF QWEST COMMUNICATIONS CORPORATION

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SUMMARY

Qwest is a multimedia communications company offering a full range of voice, data, video, and information services domestically and internationally. Qwest is close to completing the construction of a \$2.5 billion state-of-the-art, high-capacity, advanced fiber optic telecommunications network across the United States.

Qwest strongly supports the Commission's inquiry into the deployment of advanced telecommunications capability. Qwest's vision is that the availability of massive quantities of bandwidth will spur demand for services that have not even been imagined yet. The lack of capacity and competitive access in the last mile is what holds back this development. The Commission should do everything it can both to accelerate investment in last mile facilities and to make that last mile capability available to all service providers.

Qwest is on the cutting edge of deployment of advanced telecommunications capability throughout the nation. Qwest is in the process of constructing a nationwide, high-speed, state-of-the-art packet-switched internet protocol (IP) OC-192 fiber optic network which will operate at speeds of 10 gigabits. When completed (scheduled for the second quarter of 1999), the Qwest network will span 18,449 miles in 130 cities, representing approximately 80 percent of the originating data and voice traffic in the U.S. The network is designed with 48 fibers, with extra capacity to add ten times as many fibers, and features a highly reliable bi-directional, line switching SONET ring architecture. Qwest is also

establishing ten major 50,000 square foot "CyberCenters" that will offer a broad range of web hosting and multimedia applications for customers.

Qwest's international facilities include a 1,400 mile network that Qwest is constructing in Mexico. Qwest also is participating in a consortium building a transpacific submarine cable system connecting the U.S. to the Pacific Rim; has secured leased transatlantic cable capacity to London; and has an agreement with Global Crossing to use their cable to the Netherlands and Germany. In addition, Qwest's indirect parent, QCI, has acquired a European provider of Internet services, EUNet International. Via its subsidiaries, EUNet currently provides one-stop shopping for corporate Internet access in Europe, with a network spanning more than 30 countries.

Qwest provides a wide range of voice, data, video, and other services over its high-speed network, including domestic and international long distance services, Internet access, IP telephony, web hosting, and web content services. Qwest also provides services to other common carriers, including traditional voice, IP telephony, ATM and Frame Relay services, and sells dark fiber to other service providers.

Qwest's state-of-the-art high-speed network has the capability to offer many advanced capabilities to its customers. For example, Qwest's new nationwide OC-48 IP network will be the first network to offer customers usage-based pricing and billing, which will provide customers with access to a high-reliability source for virtually unlimited bandwidth to support sophisticated multimedia e-commerce and data applications without the costs of a dedicated leased line. As another example,

Qwest's high-speed dedicated Internet access enables customers to use the network for robust bandwidth-intensive applications, such as advanced Web-enabled commercial real estate sites.

Qwest also has made significant contributions to promoting the use of high technology communications to further the goals of academic and research institutions, libraries, and other nonprofit entities. For example, Qwest will provide the backbone and POPs, in collaboration with Cisco Systems and Nortel, for the Abilene network. The Abilene network is an advanced native IP backbone network that will be made available to Internet2 member universities for purposes of academic research and testing. It will operate initially at speeds up to OC-48 (2.4 gigabits per second), and ultimately at speeds up to OC-192 (9.6 gigabits per second). Qwest also has been chosen to provide its native IP network for high-speed data, voice, and multimedia communications for the Corporation for Education Network Initiatives in California's (CENIC) CalREN-2 high performance, next generation Internet project.

Qwest also has a substantial "carrier's carrier" business. Qwest helped finance the construction of its network, for example, by selling dark fiber in its conduit to competing long distance companies. Qwest also offers a wide range of services to interexchange carriers, including high volume capacity services (up to OC-192), conventional dedicated line services, and switched services. Qwest does not view its carrier's-carrier business as detracting in any way from its retail business; rather, its carrier's-carrier business helps provide the volume to pay for the deployment of advanced capabilities.

In this Section 706 inquiry, the Commission must evaluate whether “advanced telecommunications capability” is being deployed in a “reasonable and timely fashion” to all Americans. 47 U.S.C. § 706.

Qwest believes that market forces will ensure that last mile deployment is “timely” without any additional incentives. The Commission should recognize that economic considerations drive the speed and extent of investment in advanced network capabilities, not the regulatory climate. The Commission should not be swayed by arguments offered up by incumbents seeking deregulated treatment in exchange for promises of faster investment in advanced technology. The ILECs do not need --- and clearly should not be granted -- a monopoly in advanced last-mile telecommunications capability or deregulated status in order to invest in advanced services.

To be considered “reasonable” under Section 706, the deployment of last mile facilities must be open to competitive access. The hallmark of “reasonable” deployment is deployment that *expands* the telecommunications capabilities available to customers and service providers without *limiting* customer choice or competitor access to those customers. Because of the economics of last mile investment, it is essential that the Commission ensure that advanced last mile facilities and capabilities remain available for other service providers to use.

To encourage the development of a competitive advanced last mile, the Commission should continue to apply the full range of local market-opening provisions to ILECs as they expand the capacity of local exchange facilities. The

Commission should also enforce and expand collocation requirements, order ILECs to make dark fiber available to competitors, and take additional steps to make high-bandwidth loops available to carriers and to end users who seek to access the high-bandwidth capabilities of networks like Qwest's.

In sum, the Commission's guiding principle in this inquiry must be to preserve competition and diversity of choice for consumers as the last mile evolves to broadband capabilities. If the last mile is not competitive, it will be far more difficult to preserve the current highly competitive and innovative nature of the interexchange, Internet, and information services markets.

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COMMENTS OF QWEST COMMUNICATIONS CORPORATION

Qwest Communications Corporation ("Qwest") hereby respectfully submits its comments in response to the August 7, 1998 Notice of Inquiry issued in the captioned proceeding. 1/

INTRODUCTION

Qwest is a multimedia communications company offering a full range of voice, data, video, and information services domestically and internationally. Qwest is close to completing the construction of a \$2.5 billion state-of-the-art, high-capacity, advanced fiber optic telecommunications network across the United

1/ Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, CC Docket No. 98-146, FCC 98-187, released August 7, 1998 ("Advanced Services NOI" or "NOI").

States. Effective June 5, 1998, LCI International Telecom Corp. ("LCI") became a wholly owned subsidiary of Qwest. LCI is one of the nation's fastest-growing long-distance telecommunications companies. Qwest Communications International, Inc. ("QCI"), the indirect parent of Qwest, also recently acquired EUNet International, a provider of Internet services throughout Europe. On September 14, 1998, Qwest announced the proposed acquisition of Icon CMT Corp., a leading provider of integrated Internet web solutions including Internet hosting, access, backup and related services.

Qwest strongly supports the Commission's inquiry into the deployment of advanced telecommunications capability. The Commission will find that Qwest and others are already building this capability -- for now and for expansion in the future -- and that they are providing service applications today that already employ advanced network capabilities.

The real issue before the Commission is how to promote "last mile" broadband development, and how to do so *without* extending the bottleneck control that the owners of last mile facilities enjoy today. 2/ Nothing is more important to Qwest than seeing the last mile brought up to the speed and capacity of its own network. Qwest agrees that steps are needed to meet the mandate of Section 706

2/ We adopt the FCC's definition of "last mile" facilities for purposes of these comments. See NOI at para. 18 n.9.

and to fulfill the promise of the investment that Qwest and others have made in advanced network capability.

However, while the Commission should do all it can to encourage "last mile" deployment, it must also require advanced last mile capabilities to be open to competitors. The economics of last mile facilities construction is such that most consumers are likely to be served by one (or at most two) broadband local loops. If, unlike the interexchange business, the advanced last mile capabilities were to develop in a way that is not wide-open to all service providers, then much of the promise of advancements in network capability could be lost, and consumers will have few -- if any -- choices of service provider.

Qwest's vision of the future of communications is that the availability of massive quantities of bandwidth -- such as that available on the Qwest network -- will spur demand for services that have not even been imagined yet. The availability of bandwidth will also change the way that networks are designed. Networks that were designed to conserve bandwidth now can have a different focus: on maximizing the deployment of services that are bandwidth-intensive. As Qwest President and CEO Joseph Nacchio recently observed;

If this century has been about moving from telegraphy to telephony, the next will be about moving from telephony to imagery -- making video, data, and image transmission as easy as voice. We

think image communications is going to be the way people communicate in the next millennium. 3/

High bandwidth networks also allow intelligence to be distributed more broadly, and to be located outside the network (in computers linked to the Internet, for example).

The lack of capacity and competitive access in the last mile is what holds back this development. The Commission should do everything it can to make that last mile capability available to all service providers, and to encourage the acceleration of investment in last mile facilities without sacrificing competition for services provided over those facilities.

I. QWEST'S ACTIVITIES HAVE SIGNIFICANTLY FURTHERED THE DEPLOYMENT OF ADVANCED TELECOMMUNICATIONS CAPABILITY.

Qwest agrees that the definition of the statutory term "advanced telecommunications capability" should include broadband, high-speed, packet networks. 4/ Clearly, advanced "interexchange" networks are part of the "advanced telecommunications capability" included under Section 706 of the Act, whether or not the carriers or other advanced service providers rely on incumbent local

3/ Speech delivered by Joseph Nacchio, Qwest President and Chief Executive Officer, on September 1, 1998, to Telecom Business 1998, IP Telephony Conference and Exposition, at 2.

4/ See NOI at paras. 13-16.

exchange carrier (ILEC) network facilities to reach end users. 5/ Qwest's investment of over two billion dollars in building an advanced nationwide high-speed packet network is a prime example of the successful and broad deployment of such independent capability. This investment in advanced telecommunications capability is both "timely" and "reasonable" within the meaning of Section 706.

Not only will the Qwest network bring new services at unprecedented levels of speed and quality to customers throughout the country, its network is forming the basis for the next generation of Internet applications (in the IP version 6 phase) and helping to promote research and learning using the newest telecommunications capabilities. Qwest's state-of-the-art network, with its huge capacity and advanced capabilities, also requires a competitive last mile, open architecture, robust features, and transmission integrity.

As requested by the Commission, we provide in this section some detail for the record about the Qwest network, the advanced services Qwest can provide, and the participation of Qwest in initiatives such as the Abilene Internet2 project.

A. The Qwest Domestic Network

Qwest is on the cutting edge of deployment of advanced telecommunications capability throughout the nation. Qwest is in the process of

5/ 47 U.S.C. § 706. See NOI at paras. 32, 34. The term "interexchange" is a misnomer in the context of packet networks, which do not correspond to the local exchange/interexchange architecture of conventional circuit-switched networks.

constructing a nationwide, high-speed, state-of-the-art packet-switched OC-192 fiber optic network which, when completed, will operate at speeds of 10 gigabits. Much of the network is already in service and the rest is due to be completed by the second quarter of 1999. 6/ Nationwide service on this internet protocol (IP) network at the OC-48 level will be available beginning November 1, 1998. 7/ This network will be the first to offer usage-based pricing and billing, enabling customers to employ high-bandwidth capability without the cost of a dedicated leased line. When completed, the Qwest network will span 18,449 miles in 130 cities, representing approximately 80 percent of the originating data and voice traffic in the U.S. Maps of Qwest's network facilities, including network facilities acquired from LCI and EUNet, are attached as Appendix A.

The Qwest "Macro CapacitySM Fiber Network" is designed with 48 fibers, with extra capacity to add ten times as many fibers. Each fiber currently carries 8 wave division multiplexing (WDM) windows. Each WDM window has a

6/ To date, about 8,850 of the planned 18,449 route miles have been activated, including the transcontinental segment that extends from Los Angeles to Sacramento and across to New York. This translates into 17,700 lit fiber miles to date.

7/ Internet Protocol (IP) is the pattern by which data is sent from one computer to another on the Internet. IP is the network method widely used by corporations, governments, and the Internet on a global basis. IP secures many technical, business and personal applications for image transfers, electronic mail and business applications. IP is a "connectionless" protocol, meaning that there is no fixed connection between the end points that are transmitting.

bandwidth of 10 gigabits per second (OC-192). Thus, Qwest's network has the capability of transmitting data at the rate of 10 gigabits per second. The fiber deployed in the Qwest network is Lucent Technologies non-zero dispersion-shifted fiber, which is cleaner and purer than any before it.

Qwest's network employs packet-switching technology using a variety of transmission protocols including TCP/IP (Internet Protocol), ATM, and Frame Relay.^{8/} It will employ separate OC-48 backbones with both native IP infrastructure for IP services and a native ATM infrastructure backbone for Frame Relay/ATM services. Its points of presence are equipped to allow the network to operate at 10 gigabit speeds. Cisco will provide Qwest with its 12000 Gigabit Switch Router and AS5800 universal access server. Qwest is also establishing ten major 50,000 square foot "CyberCenters" that will offer a broad range of web hosting and multimedia applications for customers. By the end of this year,

^{8/} ATM (Asynchronous Transfer Mode) is an information transfer standard that is one of a general class of packet technologies that relay traffic by way of an address contained within the first five bytes of a standard fifty-three-byte-long packet or cell. The ATM format can be used by many different information systems, including local area networks, to deliver traffic at varying rates, permitting a mix of voice, data and video (multimedia).

Frame Relay is a high-speed, data-packet switching service used to transmit data between computers. Frame Relay supports data units of variable lengths at access speeds ranging from 56 kilobits per second to 1.5 megabits per second. This service is well-suited for connecting local area networks, but is not presently well suited for voice and video applications due to the variable delays which can occur. Frame Relay was designed to operate at high speeds on modem fiber optic networks.

centers will be available for customer service in San Francisco, Los Angeles, New York, and Washington, D.C. The remaining six centers will be open in 1999. 9/

The Qwest network is also highly reliable, redundant, and close to error-free. The network's bi-directional, line switching SONET ring architecture will virtually eliminate network downtime for Qwest customers. This self-healing system adds more security and reliability to the network by allowing instantaneous rerouting (in 100 milliseconds) in the unlikely event of a fiber cut. The bit error rate is one in every quadrillion bits -- the equivalent to having only one grain of sand out of place along a twenty-mile stretch of beach.

The Qwest network is being constructed with virtually all-new technology, on new routes, with built-in room for expansion of capacity. The Qwest fiber facilities are buried in conduit approximately four feet underground, predominantly on railroad rights-of-way, which also enhances its security. The conduit is being laid by train cars, which dig a trench and then lay the conduit through which the fiber strands are later fed. 10/ Qwest is installing two conduits. One conduit generally has 48 fibers reserved for Qwest and 48 other fibers. The other conduit is empty, available for future expansion.

9/ These additional centers are located in Seattle, Dallas, Chicago, Detroit, Atlanta, and Miami.

10/ See "Building the Future-Proof Telco," Wired (May 1998), p. 126. The article explains how the fiber is being laid in the Qwest network and details some of the network's unique qualities and capabilities. The article is included with these comments as Appendix B.

Because of its cutting-edge technology, Qwest will be able to deliver high-quality data, video and voice connectivity securely and reliably to businesses, consumers and other communications service providers. A concrete example of the capabilities of this network will help provide a sense of the mind-boggling capability of the state-of-the-art technology deployed in the Qwest network. At its full capacity as currently defined, the network will have the ability to transmit the contents of the entire Library of Congress across the country in only 20 seconds.

B. International Facilities

Qwest also has extended its network internationally. Qwest is building a 1,400 mile network into Mexico, as shown in the attached maps. Its reach will extend to 14 major cities in Mexico, including Monterrey, Mexico City, Guadalajara, and Puebla. This network, which is connected to Qwest's U.S. network, will have the capability to provide service to approximately 80 percent of Mexico's population.

Qwest also recently announced its participation in a consortium of communications companies that is building a transpacific submarine cable system connecting the U.S. to the Pacific Rim. The technology used will be a four fiber pair cable through which, beginning in Japan, connections can be made to other digital lightwave submarine cable systems reaching numerous points in Asia. With this joint ownership, Qwest will be able to extend its network to reach the most populous continent in the world.

At the beginning of 1998, Qwest extended its network to London by securing transatlantic cable capacity to carry international data and voice traffic, through an exchange of like-kind assets with Teleglobe, Inc. In April 1998, Qwest signed an agreement with Global Crossing Ltd. to use its fiber optic cable system to connect Qwest's facilities with the Netherlands and Germany.

Qwest's indirect parent, QCI, has acquired a European provider of Internet services, EUNet International. EUNet was established in 1982 as the first European provider of Internet services for business use, and was instrumental in creating Europe's Internet infrastructure. Via its subsidiaries, EUNet currently provides affiliated companies and business partners one-stop shopping for corporate Internet access in Europe, with a network spanning more than 30 countries. A map describing the Qwest/EUnet network is attached to these comments.

C. Qwest Services

Qwest provides a wide range of voice, data, video, and other services over its high-speed network. For residential and business customers across the nation, Qwest offers a multitude of domestic and international long distance services, including 1+ long distance, 800/888, calling card, debit card, and international callback services. 11/ It also provides Internet access and IP telephony in selected markets. For business customers, Qwest offers a full range of

11/ Through LCI, Qwest is providing some competitive local exchange service, chiefly via service resale.

domestic and international voice, data, and video services, including a range of IP-based services, such as high-speed Internet access, web hosting, and web content services. Finally, Qwest provides services to other common carriers, including traditional voice, IP telephony, ATM and Frame Relay services. Qwest also sells dark fiber to other telecommunications companies.

Qwest's advanced network has enabled it to introduce state-of-the-art high-speed services to its customers. For example, Qwest's new nationwide OC-48 IP network will be the first network to offer customers usage-based billing. With usage-based pricing and billing, customers will have access to a high-reliability source for virtually unlimited bandwidth to support sophisticated multimedia e-commerce and data applications without the costs of a dedicated leased line. As another example, Qwest's high-speed dedicated Internet access up to OC-48 enables customers to use the network for robust bandwidth-intensive applications, such as advanced Web-enabled commercial real estate sites.

As a further example, in conjunction with Cisco Systems, 12/ Qwest recently introduced its offering of Remote Access Virtual Private Networking Service, a remote dial-in access service connecting off-site employees to corporate host applications in a secure and efficient manner. This service allows customers

12/ Cisco will provide Qwest with its 12000 Gigabit Switch Router for the VPN network backbone, the carrier-class Cisco AS5800 universal access server for the VPN network edge and the Cisco IOS (tm) software platform for the integrated VPN features.

complete control over the number of ports they wish to use, thereby defining their own user-to-modem ratio, while avoiding the costs and time associated with on-site modem pool maintenance. These IP-based services will be available first quarter 1999 for premise-based VPNs and second quarter 1999 for network-based VPNs.

With Qwest's ten planned "CyberCenters" and its pending acquisition of Icon CMT, Qwest also will be able to offer high-performance, scalable, and secure Web hosting services, providing customers with dedicated access to the Internet, intranets, and extranets at up to OC-48 speeds. Qwest's OC-48 services will enable its customers to employ such high-bandwidth multimedia applications as video conferencing, whiteboarding, and distance learning.

In a teaming arrangement with other equipment providers, Qwest will also offer Frame Relay and ATM services across its new nationwide backbone. With seamless network connectivity and Quality of Service between Frame Relay and ATM, customers will enjoy network transference between sites at speeds from 56 Kbps Frame Relay up to 155 Mbps (OC-3) ATM, including 45 Mbps (DS-3) network access for Frame Relay.

In order for these services to provide maximum utility to end-users, however, Qwest needs to interconnect with last mile local providers on both a technically proficient manner and an economically viable basis. Technically, Qwest needs the providers to meet standard physical interconnection requirements and logical network interface requirements for protocols, signaling, and database access.

D. Qwest's Commitment to Educational Institutions, Libraries, and Other Non-Profit Entities.

Qwest has already made significant contributions to promoting the use of high technology communications to further the goals of academic and research institutions, libraries, and other nonprofit entities. For example, in a White House ceremony on April 14, 1998, Vice President Gore unveiled the Abilene network, for which Qwest will provide the backbone and POPs, in collaboration with Cisco Systems and Nortel. The Abilene network will be the most advanced native IP backbone network available to Internet2 member universities, operating initially at speeds up to OC-48 (2.4 gigabits per second), and ultimately at speeds up to OC-192 (9.6 gigabits per second). 13/ Internet2 is a collaborative project of over 120 U.S. research universities, in partnership with industry leaders and federal agencies, to develop a new family of advanced applications to meet emerging academic requirements in research, teaching, and learning. 14/

The Abilene project is led by the University Corporation for Advanced Internet Development (UCAID). 15/ Its three major goals are (1) "to provide an

13/ See "Project Summary" at UCAID website, http://www.ucaid.edu/abilene/html/project_summary.html.

14/ Internet2 is addressing this challenge by creating a leading edge network capability (through the participation of Qwest, Cisco Systems, and Nortel) enabling a new generation of applications, and integrating these efforts with the current academic Internet services.

15/ UCAID provides leadership and direction for advanced networking development within the U.S. university community. Its activities include the

advanced, high-availability backbone network . . . to support . . . advanced research applications;" (2) to provide a separate network to enable pre-application testing of advanced network capabilities (including Quality of Service standards, multicasting, and advanced security and authentication protocols); and (3) "to provide a separate network capability to conduct network research, including alternative network designs capable of promoting both the Abilene network and the general state of the art." 16/ The Internet2 initiative is funded in part by federal research agencies and will complement the Administration's own Internet initiative, the Next Generation Internet (NGI). 17/

[Footnote continued]

Internet2 project as well as other programs devoted to network research, technology transfer, and collaborative activities in related fields such as distance learning and educational technology. For more information, see www.ucaid.edu.

16/ <http://www.ucaid.edu/abilene/html/project-summary.html>. at 1.

17/ The Next Generation Internet project

is a multi-agency federal research and development program that is developing advanced networking technologies, developing revolutionary applications that require advanced networking, and demonstrating these capabilities on testbeds that are 100 to 1,000 times faster *end-to-end* than today's Internet.

"Internet2 and the NGI: Complementary and Interdependent," from the Internet2 website, <http://www.internet2.edu/html/internet2-ngi.html> (emphasis in original).

Qwest also has been chosen to provide its native IP network for high-speed data, voice, and multimedia communications for the Corporation for Education Network Initiatives in California's (CENIC) CalREN-2 high performance, next generation Internet project. ^{18/} The CalREN-2 network will enable new research and educational applications that currently do not work effectively over the existing Internet. Planning for CalREN-2 began in September 1996. An award from the National Science Foundation (NSF), announced in May 1997, provided the seed funding to initiate the network design. CalREN-2 will interconnect CENIC member institutions at speeds ranging from 622 to 2,400 million bits per second. At the lower of these speeds, an entire edition of the Encyclopedia Britannica's thirty volumes could be transmitted in less than one second.

Some of the possible applications on CalREN-2 include interactive simulation and collaborative environments to enable students at different campuses to participate in 3D virtual experiments; remote transmission of high-precision medical images for clinical diagnosis, research and teaching; and high speed access to digital library resources.

^{18/} CENIC is a not-for-profit corporation formed by the University of California, Stanford University, the California Institute of Technology, the University of Southern California and the California State University. CENIC's mission is to advance the use of communications technology in the enhancement of teaching, learning and research at California's institutions of higher education.

Most recently, on September 8, 1998, Qwest was awarded a \$38 million contract from MiCTA -- a non-profit organization dedicated to helping learning institutions, libraries, non-profit hospitals, a county governments, municipalities, and other non-profit entities handle the acquisition and implementation of telecommunications services within their organizations. 19/ Qwest will provide long distance voice, video, and data services to MiCTA members in the contiguous 48 states and will provide dedicated Internet access to members residing outside of Michigan.

E. Qwest's Carrier's-Carrier Business

Qwest has long seen the potential for taking advantage of its network assets by serving as a "carrier's carrier," providing facilities, functionality, and services to competing carriers and to other service providers. Qwest helped finance the construction of its network, for example, by selling dark fiber in its conduit to competing long distance companies. Qwest also offers a wide range of services to interexchange carriers, including high volume capacity services (up to OC-192), conventional dedicated line services, and switched services. Qwest's advanced capabilities mean that carrier-customers can obtain capacity on-demand, as much or as little as the carrier needs, reconfigured in a microsecond. Qwest also has

19/ MiCTA, formerly the Michigan Collegiate Telecommunications Association, has as members approximately 700 institutions across the United States and abroad, representing state colleges and universities as well as government, non-profit organizations and K-12 schools.

advanced customer network management features for its carrier-customers that allow the carrier to monitor and reconfigure its leased resources directly and securely at the push of a button.

Qwest does not view its carrier's-carrier business as detracting in any way from its retail business; rather, its carrier's-carrier business helps provide the volume to pay for the deployment of advanced capabilities. Further, this business helps promote the Commission's goal of fostering a "network of networks" within the U.S.

II. THE COMMISSION SHOULD ENSURE OPEN ACCESS TO LAST MILE INVESTMENT IN ADVANCED CAPABILITY.

In this Section 706 inquiry, the Commission must evaluate whether "advanced telecommunications capability" is being deployed in a "reasonable and timely fashion" to all Americans. 47 U.S.C. § 706. Qwest believes that market forces will ensure that last mile deployment is "timely" without any additional incentives. To be considered "reasonable," however, the deployment of last mile facilities must be open to competitive access. The Commission's guiding principle in this inquiry must be to preserve competition and diversity of choice for consumers as the last mile evolves to broadband capabilities. If the last mile is not competitive, it will be far more difficult to preserve the current highly competitive and innovative nature of the interexchange, Internet, and information services markets.

A. Non-Market-Based Incentives Are Not Needed to Ensure “Timely” Deployment of Advanced Last Mile Capabilities.

The current deployment of last mile advanced telecommunications capability is “timely” under Section 706. As the FCC itself has recognized, the “last mile” to the customer remains relatively low in its speed and bandwidth capabilities compared to the capacity of networks such as Qwest’s. Nothing could be more important to Qwest than seeing rapid investment in bringing the last mile up to the speed and capacity of its own network, and Qwest supports all efforts to encourage such investment.

The market is already driving investment in advanced communications technology. Investment will be deployed on a reasonable, timely basis without regulatory intervention or other incentives. Although Qwest hopes that investment in advanced last mile capability will accelerate so that customers can take maximum advantage of Qwest’s network, Qwest emphatically does not believe that any extra incentives are necessary to spur incumbent local exchange carriers to make this investment. Qwest is a perfect example of a company that is responding to market incentives to build a state-of-the-art broadband network, for itself and for other service providers.

Investment in expanding the bandwidth of that last mile has begun already -- through the activities of competitive local exchange carriers, who have installed high capacity local networks that reach many large businesses, and through the activities of incumbent local exchange carriers, who have also begun to